

1340-1-017

(Sheet 1 of 8)

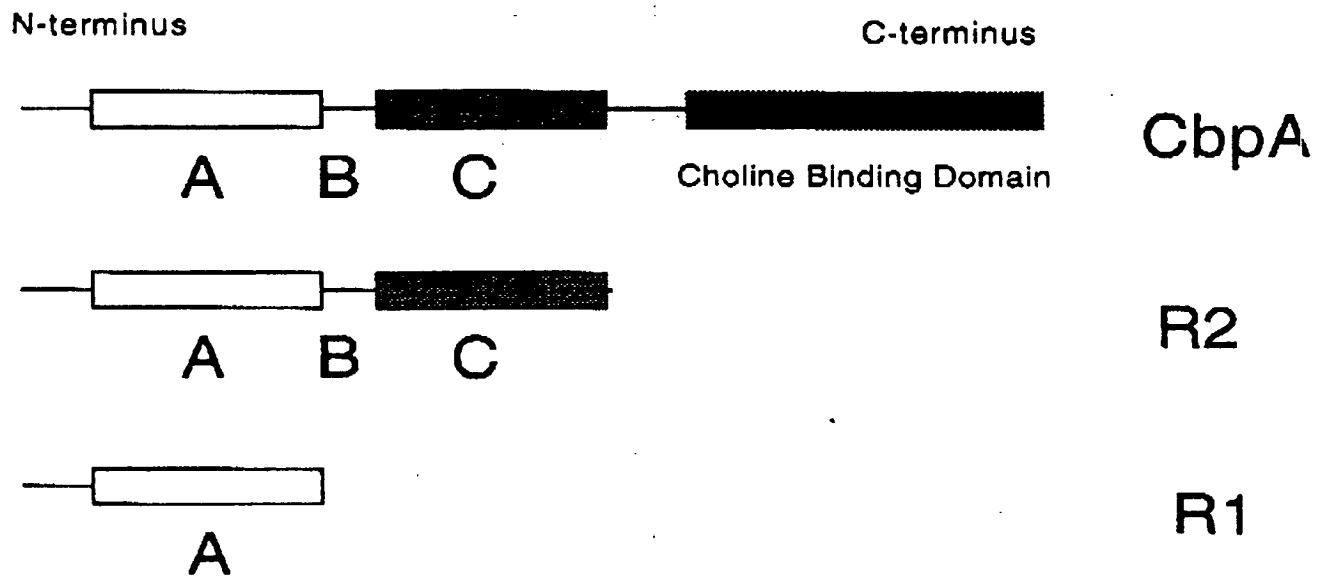


Figure 1

09056019-040798

		10 20 30 40 50 60 70											
		-AVASLVMGSVVHATEKEVTTQVATSSNRANESQTEHRKAQKQ-----VDEYIKKKL---Q--L											
SPB328 (23F)	Cbp	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTEHMKAAKQ-----VDEYIKKKL---Q--L										53	
SPB365 (23F)	Cbp	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTEHMKAAKQ-----VDEYIKKKL---Q--L										53	
SPB105 (6B)	CbpA	VAVASLVMGSVVHATEKEVTTQVATSSNRANESQAGHRKAABQF-----DEYIKTMI---Q--L										54	
SPSJ12 (19A)	Cbp	-AVASLVMGSVVHATENEGTTQAPTSSNRGNESQAEHMKAAKQ-----VDEYIEKML---Q--L										53	
SPB331 (14)	CbpA	-VASLVMGSVVHATEKEVTTQVATSSNRANKSQTEHMKAAKQ-----VDEYIKKKL---Q--L										52	
SPR332 (9V)	CbpA	CTVASLVMGSVVHATENERTQVPTSSNRGK---PERRKAABQF-----DEYINKMI---Q--L										51	
ATCC2	CbpA trun	VAVASLVMGSVVHATEKEVTTQVPTYSNMAK---TEHRKAQKQV-----VDEYIEKMLREIQ--L										55	
R6X (2)	CbpA tru	-----ENEGSTQAATSSNMAK---TEHRKAQKQV-----VDEYIEKMLREIQ--L										40	
SPSJ9 (14)	CbpA Y-	IASLFLGGVVHAE---GVRSENNPTVTSSGQDISKKYADE-----VKSHLEKILSEIQTNL										54	
ATCC6B	CbpA tru	---ASLFLGGVVHAE---GVRSGNNSTVTSSGQDISKKYADE-----VESHQSILKDVNKNL										52	
Ntype4	CbpA tru	CTVASLVMGSVVHATENEGATQVPTSSNRANESQAEQGEQPKKLDSEDKARKEVEEYVKKIVGESYAKS										70	
ATCC4	CbpA trun	IVASLVMGSVVHATENEGATQVPTSSNRANESQAEQGEQPKKLDSEDKARKEVEEYVKKIVGESYAKS										69	
		80 90 100 110 120 130 140											
		DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEALPSEIKA---KLDAAFEQFKKDTL-----											
SPB328 (23F)	Cbp	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEALPSEIKA---KLDAAFEQFKKDTL-----										111	
SPB365 (23F)	Cbp	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEALPSEIKA---KLDAAFEQFKKDTL-----										111	
SPB105 (6B)	CbpA	DRRKHTQNFALNIKLSRIKTEYLRKLVLEEKSKAELPSETKK---EIDAAFEQFKKDTNR-----										113	
SPSJ12 (19A)	Cbp	DRRKHTQNVALLTKLGAIKTEYLRGLSVSKKSEALPSEIKE---KLTAAFEQFKKDTL-----										111	
SPB331 (14)	CbpA	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEALPSEIKA---KLDAAFEQFKKDTL-----										110	
SPR332 (9V)	CbpA	DRRKHTQNLAFNIQLSRIKTEYLNGL---KEKSEALPSEIKA---ELDAAFEQFKKDTL-----										106	
ATCC2	CbpA trun	DRRKHTQNFALNMKLSAIKTEYLYGLK---EKSEALPSEVKA---KLDAAFEQFKKDTL-----										110	
R6X (2)	CbpA tru	DRRKHTQNVALLNIKLSAIKTYLRELVLEEKSKOELPSEIKA---KLDAAFEQFKKDTL-----										98	
SPSJ9 (14)	CbpA	DRSHIKTVNLINKLQDIKRTYLYELNVLEEKSKAELPSEIKA---ELDAAFEQFKKDTL-----										112	
ATCC6B	CbpA tru	KKVQHTQNFADFNKLSKIKTKYLYELNVLEEKSEALTSKTKETKEELTAAFEQFKKDTL-----										113	
Ntype4	CbpA tru	TKKRHTITVALVNLNLIKNEYLN---KIVESTSESQILMMESRSKVDEAVSKFEKDSSESSSSSSSSTK										138	
ATCC4	CbpA trun	TKKRHTITVALVNLNLIKNEYLN---KIVESTSESQILMMESRSKVDEAVSKFEKDSSESSSSSSSSTK										137	
		150 160 170 180 190 200 210											
		-----PTEPGKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV											
SPB328 (23F)	Cbp	-----PTEPGKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV										162	
SPB365 (23F)	Cbp	-----PTEPGKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV										162	
SPB105 (6B)	CbpA	-----TK---KTVAEAKKVEEAKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV										161	
SPSJ12 (19A)	Cbp	-----KPEKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV										160	
SPB331 (14)	CbpA	-----PTEPGKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV										161	
SPR332 (9V)	CbpA	-----PTEPEKKVAAEAKKVEEAKKVAEAKKAKAQKEEDRRNYPTITYKTLDLEIAEFDVKV										164	
ATCC2	CbpA trun	-----KLGEKVAAEAKKVAEAKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV										159	
R6X (2)	CbpA tru	-----KPGEKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAEFDVKV										147	
SPSJ9 (14)	CbpA	-----PTEPGKKVAAEAKKVEEAKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVKV										163	
ATCC6B	CbpA tru	-----STEPEKKVAAEAKKVEEAKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV										164	
Ntype4	CbpA tru	PEASDTAKPNKPTPEGKVAAEAKKVEEAKK-----AKDQKEEDRRNYPTITYKTLELEIAESDVEV										201	
ATCC4	CbpA trun	PEASDTAKPNKPTPEGKVAAEAKKVEEAKK-----AKDQKEEDRRNYPTITYKTLELEIAESDVEV										200	

Figure 2A

1340-1-017

(Sheet 3 of 8)

KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA  
 220 230 240 250 260 270 280  
 SPB328(23F) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPB365(23F) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPB105(6B) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPSJ12(19A) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPB331(14) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPR332(9V) Cbp KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 ATCC2 CbpA trun KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 R6X(2) CbpA tru KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 SPSJ9(14) CbpA KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 ATCC6B CbpA tru KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 Ntype4 CbpA tru KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227  
 ATCC4 CbpA trun KKAELVKEEAKESRDEKINQAKAKVESKKAETRLKIKTDREKAE--AKRRADAKLQEA---NVA 227

-SEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK  
 290 300 310 320 330 340 350  
 SPB328(23F) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPB365(23F) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPB105(6B) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPSJ12(19A) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPB331(14) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPR332(9V) Cbp TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 ATCC2 CbpA trun TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 R6X(2) CbpA tru TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 SPSJ9(14) CbpA TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 ATCC6B CbpA tru TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 Ntype4 CbpA tru TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297  
 ATCC4 CbpA trun TSEQDKFKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKVAEAEKVVAAEKKAEDQK 297

EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD  
 350 370 380 390 400 410 420  
 SPB328(23F) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPB365(23F) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPB105(6B) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPSJ12(19A) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPB331(14) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPR332(9V) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 ATCC2 CbpA trun EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 R6X(2) CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 SPSJ9(14) Cbp EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 ATCC6B CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 Ntype4 CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367  
 ATCC4 CbpA trun EEDRRNYPNTYKTLLEIAESDVEVKAEELVKEEAKESRNEEKVKQAKAESKKAETRLKIKTD 367

RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA  
 430 440 450 460 470 480 490  
 SPB328(23F) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPB365(23F) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPB105(6B) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPSJ12(19A) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPB331(14) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPR332(9V) Cbp RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 ATCC2 CbpA trun RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 R6X(2) CbpA tru RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 SPSJ9(14) CbpA RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 ATCC6B CbpA tru RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 Ntype4 CbpA tru RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437  
 ATCC4 CbpA trun RKKAEE--AKRKAEEEDVKKEPABQPPAPAPQPEKPAEPEPNPAPAP--PKPENPABQPKAEKPADQQA 437

EE--  
 SPB328(23F) Cbp EE 439  
 SPB365(23F) Cbp EE 437  
 SPB105(6B) Cbp EE 439  
 SPSJ12(19A) Cbp EE 419  
 SPB331(14) Cbp EE 437  
 SPR332(9V) Cbp EE 433  
 ATCC2 CbpA trun EE 427  
 R6X(2) CbpA tru EE 413  
 SPSJ9(14) Cbp EE 425  
 ATCC6B CbpA tru EE 439  
 Ntype4 CbpA tru EE 460  
 ATCC4 CbpA trun EE 459

Figure 2B

1340-1-017

(Sheet 4 of 8)

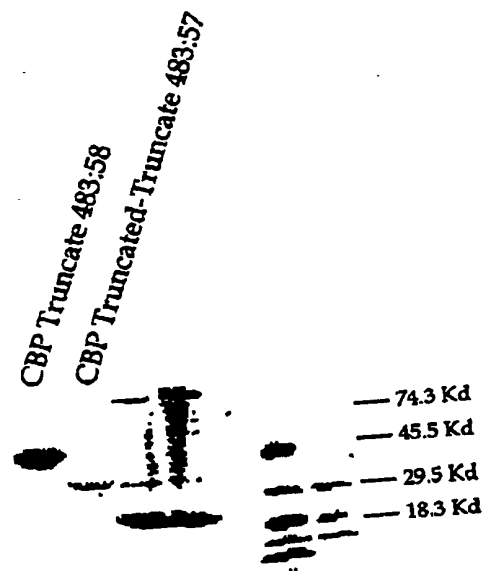


Figure 3

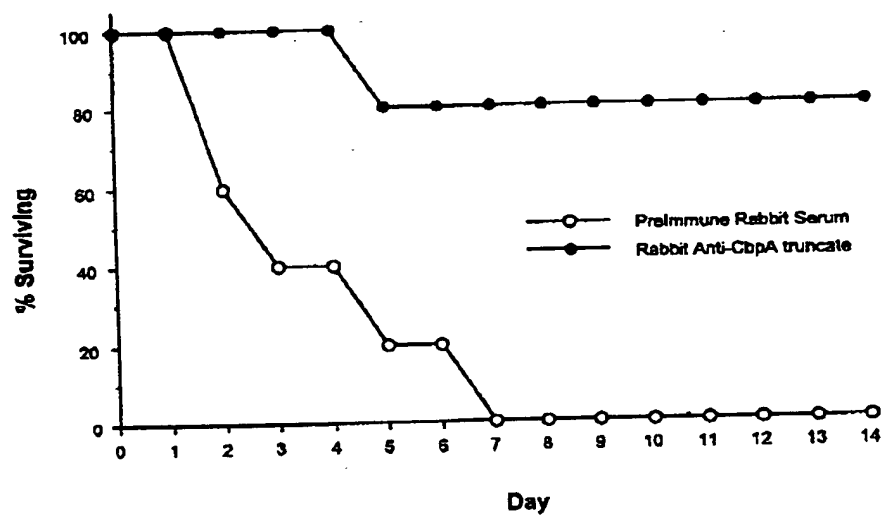


Figure 4

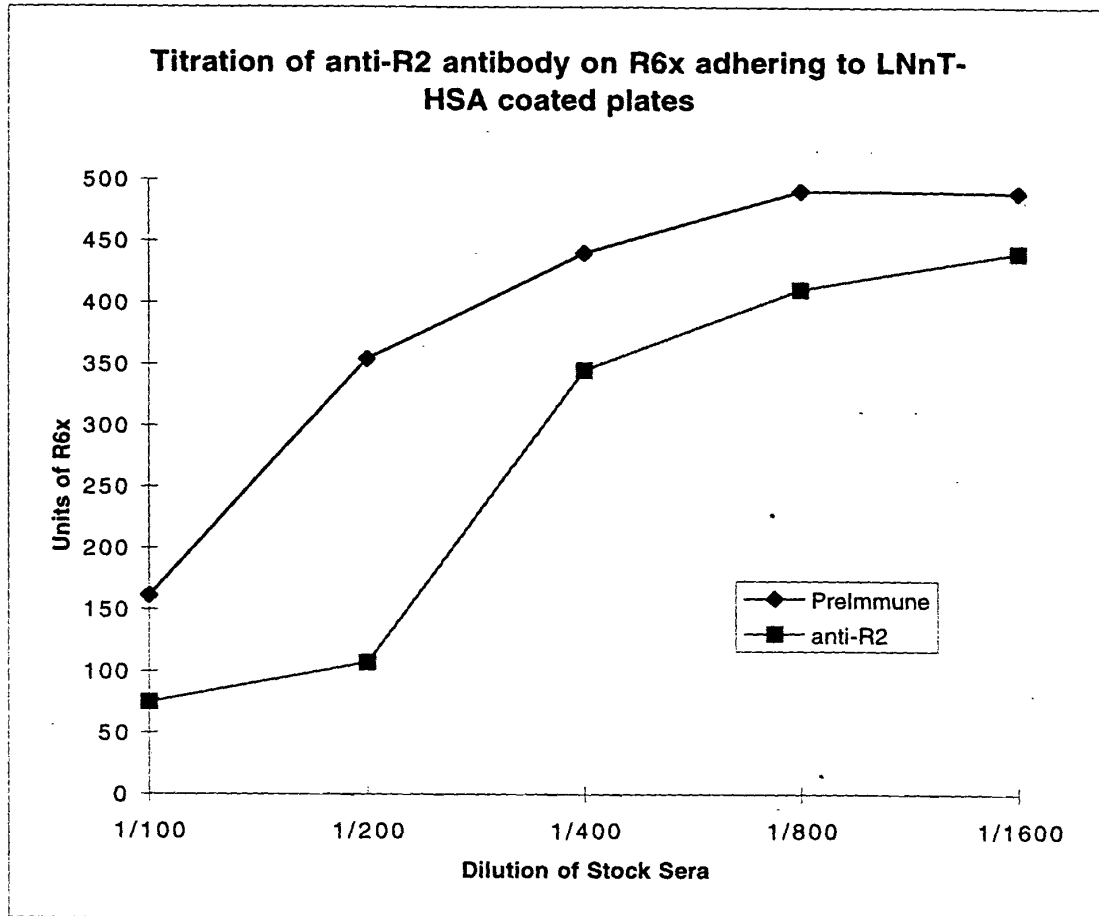


Figure 5

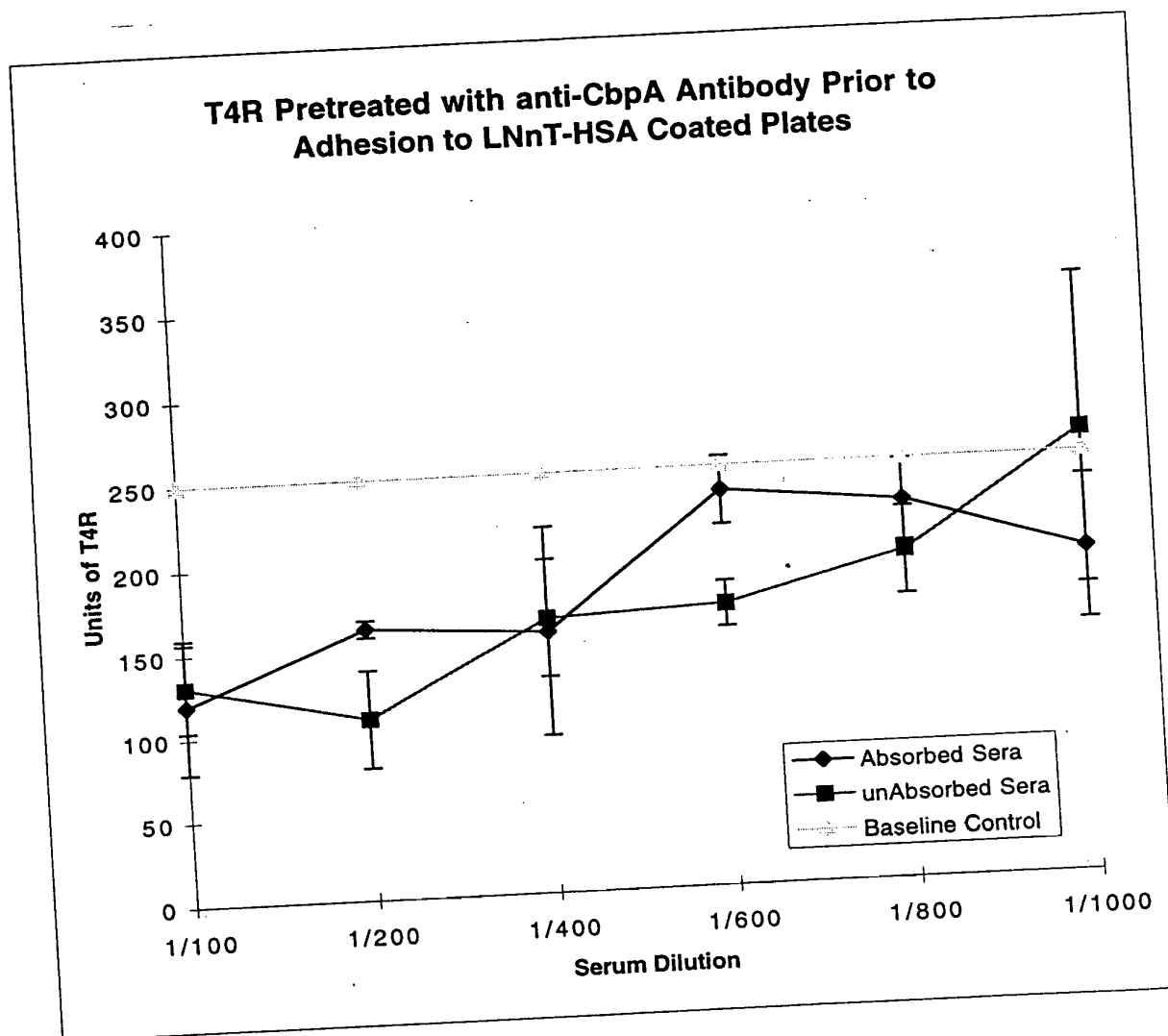


Figure 6

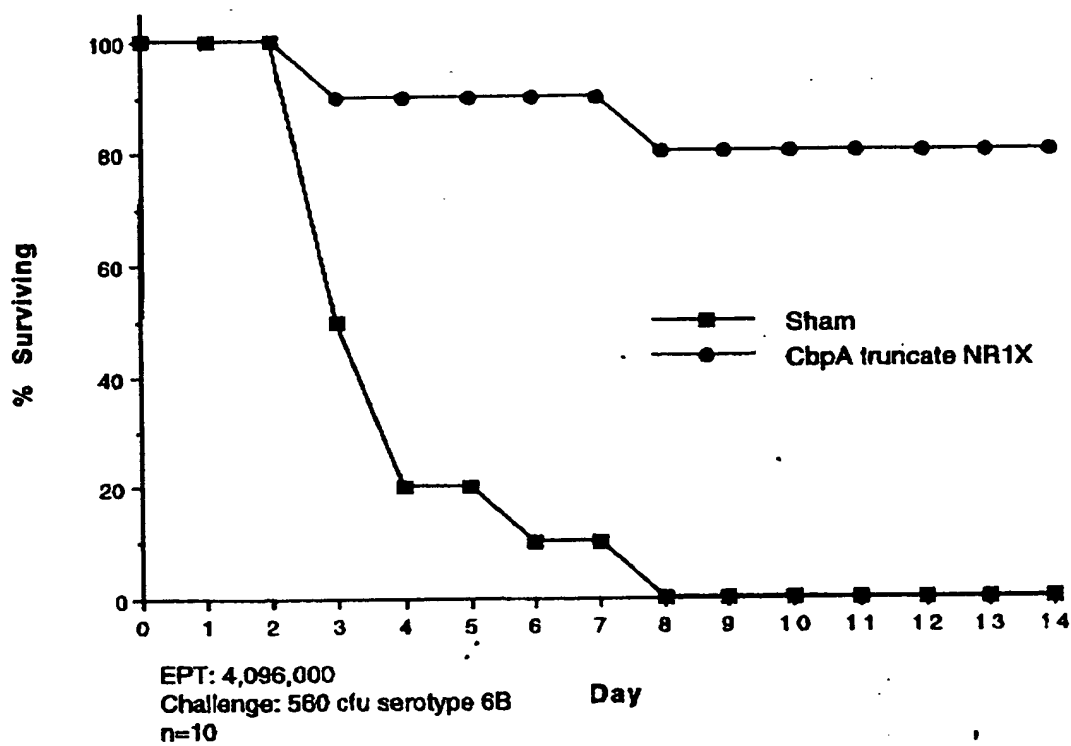
Active Protection

Figure 7